

Introduction to the Wisconsin Healthy People 2010 Data Package (2003 Edition)

The content of the Healthy People/Healthiest Wisconsin 2010 Data Package was developed through collaboration between Bureau of Health Information (BHI) staff and Division of Public Health (DPH) staff, and through suggestions provided by Terri Timmers, Director of the DPH Northern Regional Office, and other DPH regional directors in January, 2002. The Division of Public Health provided funds for developing the package in 2002 and for updating it in 2003.

The Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services, produced the package. Anne Ziege, in the Research and Methods Section, produced the package under the general direction of John Chapin, Bureau Director.

The Healthy People 2010 Data Package consists of Power Point files containing slides for each of the 72 Wisconsin counties. The slides provide bar and line graph representations of county data in relation to regional¹ and state-level data, and in relation to Healthy People 2010 federal targets. Objective areas include leading health indicators, mortality, environmental quality, socioeconomic factors, maternal and child health, injury and violence, and sexually transmitted diseases.

The majority of charts portray information that corresponds exactly to federal 2010 objectives in terms of units of measurement and other specifications, as stated in the publication *Healthy People 2010* (Volumes I and II; U.S. Department of Health and Human Services; November, 2000). Several charts provide information about other areas of concern to local health departments that do not correspond precisely with federal 2010 objectives.

In some cases, county-level data are not provided because numbers of cases are too small to compute rates or provide reliable estimates of percentages. In those cases, regional data are provided. *Detailed technical notes addressing data and related issues follow in a separate section of this document.*

Behavioral Risk Factor, mortality and morbidity (i.e., hospital inpatient) data sets are all managed by BHI. Maternal and child health data were obtained using the BHI-managed query system WISH (Wisconsin Interactive Statistics on Health). Socioeconomic data were downloaded from U.S. Census 2000 Web site files.

The following people outside BHI provided data for the 2003 updates: Jeffrey Havlena, Division of Public Health, lead screening data; Alan Locke and Paul Young, Division of Public Health, STD data; Mary Kunkel, Department of Transportation, motor vehicle crash data.

¹ The Department of Health and Family Services groups Wisconsin counties into five regions. See technical notes for further information.

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BHI publications and more information about BHI-managed data systems can be found at the following Web address: <http://www.dhfs.state.wi.us/stats/>

Technical Notes For the Healthy People/Healthiest Wisconsin 2010 Data Package (2003 Edition)

Data Sources

The Wisconsin Behavioral Risk Factor Survey

The Wisconsin BRFSS is part of the national Behavioral Risk Factor Surveillance System (BRFSS), an annual telephone-administered health survey coordinated by the U.S. Centers for Disease Control and Prevention. Wisconsin BRFSS data collection is managed by the DHFS Bureau of Health Information. The BRFSS data used here are weighted to adjust for disproportionate sampling. Additional information about the Wisconsin BRFSS can be obtained from Karl Pearson (608-266-1920) or online at <http://www.dhfs.state.wi.us/stats/BRFS.htm>.

Mortality: Wisconsin Resident Death Certificates

The source of these data is resident death certificates filed with the State Registrar, Vital Records Section, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services, as mandated by Chapter 69 of the Wisconsin Statutes. Most resident deaths occurred in Wisconsin, although the death file includes certificates for Wisconsin residents who died in other states and countries as well. The Bureau of Health Information produces an annual report, *Wisconsin Deaths*, which provides key information about deaths of Wisconsin residents. Additional information about mortality data can be obtained from Joyce Knapton (608-267-7815) or online at <http://www.dhfs.state.wi.us/deaths/index.htm>.

Hospital Inpatient Discharge Data

These data are reported to the Bureau of Health Information pursuant to Chapter 153, Wisconsin Statutes, and Chapter HFS 120, Wisconsin Administrative Code. The reported information contains patient demographic data, admission and discharge data, charge and payer data, and diagnosis and procedure data. Data are reported by all of Wisconsin's acute care, non-federal hospitals, including general medical/surgical, psychiatric, AODA, rehabilitation and state institutions. The location referred to in county-level hospital data is that of the hospital itself (as opposed to the patient's county of residence). Additional information about hospital inpatient data can be obtained from Audrey Nohel (608-267-0244) or online at <http://www.dhfs.state.wi.us/healthcareinfo/>.

Maternal and Infant Health Data: Matched Birth-Infant Death File

The source of birth data is resident birth certificates filed with the State Registrar, Vital Records Section, Bureau of Health Information, Division of Health Care Financing, Department of Health and Family Services, as mandated by Chapter 69 of the Wisconsin Statutes. Information collected includes: demographic characteristics of the mother, characteristics of pregnancy and delivery and characteristics of the newborn. The Matched Birth-Infant Death file contains information about infants who died before their first birthday. Additional information about Wisconsin birth and infant death data can be obtained from Jan Silbaugh (608-266-2838) or online at <http://www.dhfs.state.wi.us/births/>.

U.S. Census Small Area Income and Poverty Data

Poverty data were obtained from the *U.S. Census Small Area Income and Poverty Estimates/State and County Estimates* Web site. The county-level socioeconomic data presented are estimates derived from the 2000 Census Long Form Sample and refer to the previous year, i.e., 1999. Regarding poverty status, the Census Bureau states that:

“Poverty status is determined for all families (and, by implication, all family members). For persons not in families, poverty status is determined by their income in relation to the appropriate poverty threshold. Thus, two unrelated individuals living together may not have the same poverty status. The poverty thresholds are updated every year to reflect changes in the Consumer Price Index. See source for more details or see Poverty Definition, Thresholds, and Guidelines at <http://www.census.gov/hhes/www/poverty.html>.”

Lead Screening Data (Children in Medicaid/WIC Screened for Lead)

The Division of Public Health constructs the data file employed here by merging its lead testing file and the eligibility/enrollment files for Medicaid and WIC (Special Supplemental Nutrition Program for Women, Infants and Children). DPH views the results as reasonably accurate but likely to contain some unavoidable inaccuracies. Results presented here refer to children ages 0-5 who were eligible for Medicaid or WIC in a given year and who were tested during or prior to that year. The federal (not 2010) goal for lead screening is 100% of Medicaid/WIC children screened. Additional information about lead screening data can be obtained from Jeffrey Havlena, Division of Public Health (608-266-1826).

Sexually Transmitted Disease (STD) Data

STD data are reported to the Division of Public Health by physicians and testing laboratories under a dual reporting system. DPH suggests that the numbers of cases for all sexually transmitted diseases (STDs) be viewed as approximate because of inconsistencies and other flaws in reporting and compliance. DPH attempts to resolve all apparent inconsistencies but does not guarantee complete

accuracy of totals. Additional information about Wisconsin STD data can be obtained from Alan Locke, Division of Public Health (608-266-8479).

Motor Vehicle Crash Data

Alcohol-related crash data were compiled from the WisDOT-DMV Traffic Accident Database. For additional information, contact Mary Kunkel at 608-267-5179, or access the Department of Transportation Web site at:
<http://www.dot.wisconsin.gov/safety/motorist/crashfacts/>.

Methodological Issues

Number(s) of Cases

The Bureau of Health Information adheres to a standard of a minimum of 50 cases for computation of age-adjusted rates and 100 cases for percentage estimates using survey data. The provision of county-level data is extremely challenging in view of the small numbers of cases available to analyze for the smallest counties, many of which consistently have fewer cases annually than the minimums noted above. BHI routinely employs a variety of strategies to increase numbers of cases used in estimates; some of these strategies have been used to generate the measures appearing in the 2010 data package.

Changes in the 2003 Edition of the Data Package:

1. The BRFSS sample size increased from the mid-1990s through 2001, making it possible to present county-specific data for more counties, particularly for the most recent five-year period, 1997-2001. County-specific data are presented in the 2003 Local Data Package whether available for both 1996-2000 and 1997-2001 or only one of those time periods.

Where there are fewer than 100 cases for any time period, only DHFS region-specific data are shown. This is a change from 2002, when data for small counties were aggregated by BRFSS county groups as well as by DHFS regions. This change was implemented because -- as county-specific data are available for more counties -- the composition of these groups, unlike DHFS regions, is likely to be inconsistent across time periods.

2. Data appearing in the chart for vigorous exercise have been corrected. The percentages shown last year were incorrect.

3. Socioeconomic data: Two new charts have been added -- county median income and all people in poverty. The WIC participation chart has been dropped. The poverty rates shown this year use U.S. Census 2000 data rather than the Census Bureau's 1997 model-based estimates.

Age-Adjusted Rates

Age adjustment of rates enables comparisons between groups or across geographic boundaries by removing the effects of differences in age distributions. Death rates in particular are greatly affected by age distributions of populations.

In keeping with current U.S. Department of Health and Human Services and Healthy People 2010 practices, all rates appearing in the charts are age-adjusted, using the direct method, to the year 2000 standard U.S. population. (Measures using percentages derived from BRFS data are not age-adjusted. See note below.) Age adjustment expresses every county's rates as if all had the same population age distribution – the year 2000 U.S. standard population distribution.

Rates were computed for 1992-1996 and 1997-2001 using Wisconsin population estimates for the midpoint of each 5-year interval (1994 and 1999) and year 2000 age-adjustment weights. Rates were computed for: 1) county, region and state levels of aggregation for the total population for all charts except breast cancer mortality, and 2) separately for females at county, region and state levels of aggregation for breast cancer mortality.

Age-adjusted rates are shown for counties having 50 or more cases, or deaths from a particular cause, across the five-year period of interest. Charts using data expressed as age-adjusted rates show only regional, state and 2010 federal targets for counties with less than 50 cases in the time period of interest.

It should be kept in mind, however, that 50 is the *minimum* acceptable number of cases, and rates computed for 50-100 cases may not be reliable. **Caution should be used in interpreting the age-adjusted rates shown for small counties.**

Note: BRFS percentage data in the section 'Leading Health Indicators' are not age-adjusted. If comparisons between two counties are made using these measures, differing county-level age distributions should be taken into account. For example, binge drinking is known to be more prevalent among young adult males than among older and female population subgroups. A county with a large proportion of older persons (and a higher proportion female) is likely to have a lower incidence of binge drinking than one with a large college-age population.

Selection of Cases for Mortality/Morbidity Data Sets Using ICD 9/10 Codes¹

A. Mortality

Cases were selected from the Wisconsin mortality data files on the basis of underlying-cause-of-death codes as follows:

¹ Source for the ICD codes used to define the causes of death: "Tracking Healthy People 2010". U.S. Department of Health and Human Services. November, 2000.

Coronary Heart Disease

ICD-9 codes 402, 410-414, 429.2
ICD-10 codes I20-I25.9

Cerebrovascular Disease

ICD-9 codes 430-438
ICD-10 codes I60-I69

Lung Cancer

ICD-9 code I62
ICD-10 codes C33-C34

Breast Cancer

ICD-9 codes I74-I75
ICD-10 code C50

B. Morbidity

Asthma hospitalization cases were selected from the Wisconsin hospital inpatient data file using ICD-9 code 493.

Additional Information About Charts

Mortality Due to Breast Cancer

A large proportion of counties (more than half) had fewer than 50 breast cancer deaths for one or both time periods of interest. Only regional and state rates appear in the bar charts for those counties. No mortality map is included for breast cancer due to the preponderance of counties for which age-adjusted rates could not be calculated; however, the breast cancer line charts show the absolute number of deaths for five separate years for all 72 counties.

Regular and Vigorous Physical Activity

The term “vigorous” denotes exercise at 50% of aerobic capacity (or greater), as distinct from “moderate,” which denotes a lower level of exercise intensity.

The BRFSS questions used by the CDC to calculate physical activity level are asked every other year, rather than every year. Because of this, the number of cases is less than 100 for the majority of counties for the 5-year periods of interest. Regional and state-level data are therefore presented for most counties on this measure.

Obesity and Overweight, 2000-2001

The BRFSS variable used for this chart is calculated by the CDC using respondents' self-reports of height and weight. The present version of the calculated variable was new in 2000 and reflects the revised standard for overweight (Body Mass Index of 25.0 or greater).

Chart interpretation: Persons defined as obese are a subset of those overweight. The total percent overweight is equal to the overweight category plus the obese category on the chart. (For example, the total percent overweight in Wisconsin is 57%.)

The federal 2010 target for adults is stated in terms of obesity rather than overweight, as noted on the chart, and specifies adults 20 and older. The full Wisconsin BRFSS sample (ages 18 and older) contains an extremely small number of respondents under 20 and, at the regional and state levels, is virtually the same in its percentage distribution as the subset containing only adults 20 and older.

Median Income

This chart shows median **household** income. For census purposes, household income is the total amount of income received from all sources by household members 15 and older in the previous year. Households include people living alone. Household members include people not related to the householder and others in non-family households.

The median is a measure of central tendency, specifically the midpoint of a set of values.

Maps

Cut-off points for color shadings were obtained by dividing each rate distribution into quartiles. Evaluative distinctions on the basis of map shadings are not intended. County and local health departments should use the 2010 targets, regional rates and state rates as bases of comparison.

DHFS Regions and Associated Counties

- **Northern:** Ashland, Bayfield, Iron, Florence, Forest, Langlade, Lincoln, Marathon, Oneida, Portage, Price, Sawyer, Taylor, Vilas, Wood
- **Southern:** Adams, Columbia, Crawford, Dane, Dodge, Grant, Green, Iowa, Juneau, Lafayette, Richland, Rock, Sauk

- **Western:** Barron, Buffalo, Burnett, Chippewa, Clark, Douglas, Dunn, Eau Claire, Jackson, La Crosse, Monroe, Pepin, Pierce, Polk, Rusk, St. Croix, Trempealeau, Vernon, Washburn
- **Northeastern:** Brown, Calumet, Door, Fond du Lac, Green Lake, Kewaunee, Manitowoc, Marinette, Marquette, Menominee, Oconto, Outagamie, Shawano, Sheboygan, Waushara, Waupaca, Winnebago
- **Southeastern:** Jefferson, Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, Waukesha

Acronyms Used in the Technical Notes

BHI	Bureau of Health Information
BRFS	Behavioral Risk Factor Survey
CDC	(U.S.) Centers for Disease Control and Prevention
DHFS	Department of Health and Family Services
DPH	Division of Public Health
STD	Sexually Transmitted Disease
WIC	Special Supplemental Nutrition Program for Women, Infants and Children

Finding Additional Data

1. Data aggregated below the county level

WISH Query System (Wisconsin Interactive Statistics on Health)

WISH is located on the DHFS/BHI/Health Statistics Web site (Topic Area Link: Data Query Systems): <http://www.dhfs.state.wi.us/wish/> It contains data on:

- Infant mortality
- Teen births
- All births
- Prenatal care
- Fertility
- Population demographics
- Mortality – release date: Summer, 2003

WISH is easy to use and can provide data tables at the health department, city and county levels of aggregation. Tables can be produced by demographic categories such as race/ethnicity and education level. WISH calculates confidence intervals for small-area percentage estimates. The WISH mortality module will calculate age-adjusted mortality rates and the 95% confidence intervals for those rates. **For assistance getting started with WISH**, contact Randy Glysch, Wisconsin Bureau of Health Information (BHI), at 608-267-0586.

2. Demographic Information

- **Demographic Services Center:** Wisconsin Department of Administration (DOA): http://www.doa.state.wi.us/pagesubtext_detail.asp?linksubcatid=353
- **U.S. Census Bureau :** <http://www.census.gov/>